Daily Diary Report by Bid Item

Contract No.: **04-0120F4**
Diary #: **511** **Const Calendar Day:** 899 **Date:** **24-Feb-2012** **Friday**
Inspector Name: **Bruce, Matt** **Title:** **Transportation Engineer**
Inspection Type: Intermittent
Shift Hours: 04:30 am 03:00 pm **Break:** 00:30 **Over Time:** 02:00
Federal ID:
Location:
Reviewer: **Schmitt, Alex** **Approved Date:** **Status:** Submit

04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge

Weather

Temperature **7 AM** 40 - 50 **12 PM** 50 - 60 **4PM** 60 - 70
Precipitation 0.00" **Condition** Partly Cloudy

Working Day ☐ If no, explain:

Diary: Dispute ☐

Work description.

- John Lyons, Phil Latasa, Sami Dauok, Alex Schmitt, Daryoush Bahar, Michelle Chui, and myself checked the out to out distance for the cable strands today as Sami's and my measurements are tabulated below. Sami and I were responsible for both the north/south mainspans today. Similarly John, Daryoush, and Phil were responsible for checking the north/south sidespans and the west-loop. Sami assisted me with the measurements and tabulating the data as I took all of the measurements unless otherwise noted. I used the Maletic gauge (#1) to take the out to out measurements of the cable strands.

All measurements by both crews were reported to Alex and Michelle who were stationed in the Caltrans Connex recording and analyzing the data. Today Michelle was becoming familiar with the process of compiling and analyzing the real time data with Alex. When all of the measurements were completed, Alex was responsible for reviewing the measurements with ABF engineer Zach Lauria. See Alex's diary for more details related to the acceptance or rejection of cable strand sag adjustment.

Ambient temperatures were taken with the red temperature gauge. Wind speeds were obtained from weather.com at the time of the measurements. The steel temperature measurements were taken with the digital thermometer placed on the outer cable strand wires.

The official sunrise time per weather.com for San Francisco today was at 6:48am. The following measurements were taken of the relative sag from cable strand number 1 at the given times below:

// South Mainspan //
Time = 4:40am
Ambient Temperature = 58.4F
Condition = Clear
Wind = N @ 0mph
ABF Surveyor(s) = Terry Denis, Mike Bonidici, James Allen, and Ken Woon
Caltrans Engineer(s) = Matt Bruce and Sami Dauok

Cable Strand	Steel Temperature (F)	O-O (#1) CT / ABF (mm)	Theor (mm)	CT Delta (mm)
1	60.1	Baseline or Zero	76	0
47	58.5	198 / 202	239	- 41
48	58.3	312 (-23 from CS #56) = 289 / 294	298	- 9
49	58.3	451, 451 - Ave = 451 / 451	356	+ 95
50	58.3	444 (-35 from CS #49) = 409 / 413	415	- 6
51	59.1	444 (-34 from CS #49) = 410 / 415	474	- 64

52	58.4	652, 652 - Ave = 652 / 665 TD, 658 JA	532	+ 120
53	58.1	658 / 664	591	+ 67
54	58.1	758 / 761	650	+ 108
55	58.6	286 / N/A	188	+ 98
56	58.5	312 / N/A	247	+ 65

Comments: For every measurement the Maletic gauge (#1) had to be inverted with the magnetic target level placed on cable strand number 1. The measurement for cable strand numbers 48, 50, and 51 there was a reference strand in ( ) to which the flat plate of the gauge was placed upon. It should also be duly noted that cable strand number 58 was carelessly floated at the end of yesterdays shift and dives into the stack of cable strands. Due to this incident the free-hanging geometry was possibly altered for cable strand numbers 46, 47, 48, 55 and 56. See photos below for more details and comments. Cable strand numbers 50 and 51 were bearing on the cable strands below. Further it was believed that cable strands 52, 53, and 54 were being held-up by the flat plate cable strand formers. Only cable strand number 49 was considered to be free-hanging at the time of measurement on the north mainspan. I took all of the measurements while Sami assisted me with setting up the targets, being level, normal to cable, etc. ABF surveyor Terry Denis and myself exchanged numbers at the same time as we were taking turns measuring and comparing numbers. All of the ABF numbers above were taken by Terry except for a check shot on cable strand 52 done by James Allen. Given the circumstances, measurements were taken but were not valid for buy-off as I informed Terry that these conditions were unacceptable for measuring with any accuracy.

// North Mainspan //
Time = 5:56am
Ambient Temperature = 57.3F
Condition = Fair
Wind = N @ 0mph
ABF Surveyor(s) = James Allen and Ken Woon
Caltrans Engineer(s) = Matt Bruce and Sami Dauok

Cable Strand	Steel Temperature (F)	O-O (#1) CT / ABF (mm)	Theor (mm)	CT Delta (mm)
1	60.1	Baseline or Zero	75	0
47	57.8	248 / 250	243	+ 5
48	57.9	355 (-62 from CS #56) = 293 / 305	299	- 6
49	57.7	375 / 380	356	+ 19
50	57.8	422 / 427	413	+ 9
51	57.7	482 / 486	470	+ 12
52	58.1	624 (-26 from CS #53) = 598 / N/A	527	+ 71
53	57.8	624 / N/A	584	+ 40
54	57.8	703 / N/A	641	+ 62

Comments: Similar to the south mainspan for every measurement the Maletic gauge (#1) had to be inverted with the magnetic target level placed on cable strand number 1. Also as noted before on the south mainspan cable strand number 58 was carelessly floated at the end of yesterdays shift and dives into the stack of cable strands. Measurements were still taken otherwise, however we received word at 6:31am that cable strand number 58 was being floated out of the way. At this time I contacted Alex and Phil and informed them of this event. Phil and John were at the west-loop finishing off measurements when they received word to help check the south mainspan prior to sunrise.

// North Mainspan //
Time = 6:40am
Ambient Temperature = 57.3F
Condition = Fair

Wind = N @ 0mph
ABF Surveyor(s) = James Allen and Ken Woon
Caltrans Engineer(s) = Matt Bruce and Sami Dauok

Cable Strand	Steel Temperature (F)	O-O (#1) CT (mm)	Theor (mm)	CT Delta (mm)
1	60.1	Baseline or Zero	75	0
47	57.8	245	243	+ 2
48	57.9	300, 301- Ave = 301	299	+ 2
49	57.7	375	356	+ 19
50	57.8	422	413	+ 9
51	57.7	482	470	+ 12
52	58.1	600	527	+ 73
53	57.8	626	584	+ 42
54	57.8	701	641	+ 60

Comments: Once cable strand number 58 was floated out of the way the ABF surveyors first measured the cable strands listed above. Myself and Sami then took our measurements after them and were done by 6:50am with the numbers reported to Alex. The steel and ambient temperatures didn't change from the time of the initial measurement to the final measurements. This is due to the fact that the steel, ambient and wind values were taken at the end of the first round of measurements and just prior to the second round of measurements. Numbers between ABF and Caltrans engineers were verbally exchanged but not recorded to see if there were any significant discrepancies. For every measurement the Maletic gauge (#1) wasn't inverted with the magnetic target level placed on the cable strand number being measured.

- All of the measurements on the mainspans took way too long today due to the fact that cable strand 58 was in the way. The measurements taken the second time after cable strand number 58 was floated out of the way at the north mainspan took a total of 10minutes.

// South Sidespan //
Time = 7:30am
Ambient Temperature = 58.1F
Condition = Fair
Wind = SSE @ 1mph
ABF Surveyor(s) = None at this time
Caltrans Engineer(s) = Matt Bruce and Phil Latasa

Cable Strand	Steel Temperature (F)	O-O (#1) CT (mm)	Theor (mm)	CT Delta (mm)
1	59.0	Baseline or Zero	78	0
55	59.2	187 (-61) = 126	151	- 25

Comments: This was a recheck measurement of what Phil, John, and Daryoush did this morning. I took the measurement with Phil's assistance holding the timber block. Maletic gauge (#1) was used for the measurement at this location off of cable strand number 1.

- Attended the weekly OBG staff meeting at 8:30am.

- Completed compiling all my measurements taken yesterday and today on the daily cable strand sag adjustment sheets.

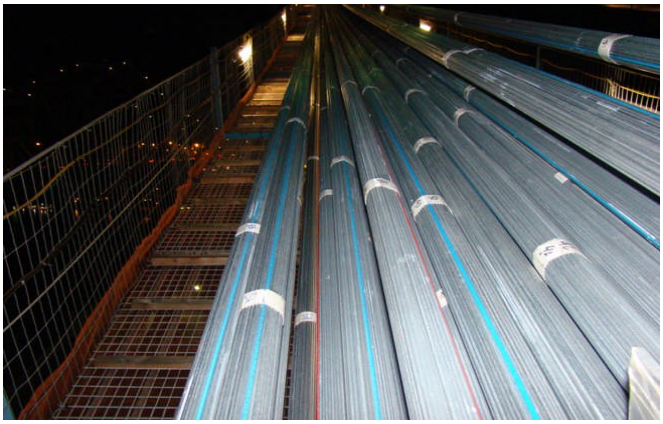
- Resumed composing outstanding diaries that need to be turned in for the month of January.

- Used the Topcon GRS-1 GPS equipment and automatic level to determine the geometry of the W-Line YBITS bridge after placing the counterweight beams at the end of the cantilever. Shot the first three rows of points from the end of the cantilever which include the brass caps (2 today) placed by ABF surveyors. Jason Wilcox (instrumentman) assisted me (rodman) with measuring the elevations using the automatic level. Surveying with the GPS equipment began at 1:30pm and was completed at 2:40pm. The K value at

the start of the survey was K =2 and K =1 at the end of the survey. The max 24 hour planetary index value for this day was K = 3. The level run began at 2:50pm and was completed at 3:20pm. The ambient temperature was 72F and the wind speed was recorded at WNW @ 9mph.

Attachment

ABF subcontractor Hillside Drilling proof testing the micropile to be used in the Hinge K Tie-Down system.



Cable strand number 58 on the south mainspan which was floated into the stack of cable strands possibly altering the free-hanging geometry.

Taking measurements with the Topcon GRS-1 GPS equipment on the north brass cap placed by ABF to monitor deflection of the cantilever.

Micropile configuration to be used in the Hinge K Tie-Down system for the YBITS W-Line bridge.

Cable strand number 58 on the north mainspan which was floated into the stack of cable strands possibly altering the free-hanging geometry.

Cable strand number 58 on the south mainspan which was floated into the stack of cable strands possibly altering the free-hanging geometry.

Centerline punchmark placed by ABF surveyors on a micro pile.

Cable strand number 58 on the south mainspan which was floated into the stack of cable strands possibly altering the free-hanging geometry.